and the generators 1 . This common transformer 38 is located on the wind power side of the connection 30, i.e. close to the wind power station 29, so that the main part of the connection 30 will be present between the transformer 38 and the frequency converter 34. Suitably the transformer 38 can be placed on one of the foundations for the wind power stations 29 or possibly on its own foundation on a strategic place.

IN THE CLAIMS

Please cancel Claims 1-34.

Please add new Claims 35-72 as follows:

35. (New) A wind power plant, comprising:

a wind power station having a wind turbine and an electric generator; and

an electric alternating voltage connection between the wind power station and at least one of an external transmission network and an external distribution network,

said electric alternating voltage connection including a frequency converter arranged on network side of the wind power plant and configured to fix a station frequency substantially below a network frequency of at least one of the external transmission network and the external distribution network, and to convert the frequency of the electric alternating voltage connection to match the network frequency.

36. (New) A wind power plant according to claim 35, wherein:

the frequency converter is configured to vary the frequency of the alternating voltage connection and a voltage of the electric alternating voltage connection.

37. (New) A wind power plant according to claim 35, wherein:

the frequency converter is configured to fix the station frequency to 20Hz or lower.

38. (New) A wind power plant according to claim 37, wherein:

the frequency converter is configured to fix the station frequency within an inclusive range of 2-20 Hz.

39. (New) A wind power plant according to claim 35, wherein:

the frequency converter is configured to fix the voltage of the electric alternating voltage connection within an inclusive range of 10-400 kV.

40. (New) A wind power plant according to claim 35, wherein:

the frequency converter comprises a direct voltage intermediate link having an AC/DC converter, and an inverter having an alternating voltage side and a direct voltage side.

41. (New) A wind power plant according to claim 40, wherein:

the direct voltage intermediate link comprises a DC/DC converter.

42. (New) A wind power plant according to claim 40, wherein:

the inverter is configured to be a voltage stiff self-commutated inverter.

43. (New) A wind power plant according to claim 40, further comprising:

a capacitor connected in parallel to the inverter on the direct voltage side of the inverter.

44. (New) A wind power plant according to claim 40, further comprising:

a plurality of network inductances connected in series with each phase of the alternating voltage side of the inverter.

45. (New) A wind power plant according to claim 35, wherein:

the frequency converter comprises a plurality of insulated gate bipolar transistor valves connected in series.

46. (New) A wind power plant according to claim 35, further comprising

at least one other wind power station, wherein the wind power station and the at least one other wind power station are connected in parallel.

47. (New) A wind power plant according to claim 35, wherein:

the electric generator is configured to be asynchronous.

48. (New) A wind power plant according to claim 35, wherein:

the wind turbine is connected to the electric generator via a gear mechanism.

49. (New) A wind power plant according to claim 48, wherein:

the gear mechanism comprises a single step planetary gear.

50. (New) A wind power plant according to claim 35, wherein:

the electric generator comprises at least one winding that comprises a solid insulation layer.

51. (New) A wind power plant according to claim 50, wherein:

the winding comprises an insulation system having at least two semiconducting layers, each of which essentially constitutes equipotential surfaces, and that the solid insulation layer is located between the at least two semiconducting layers.

52. (New) A wind power plant according to claim 51, wherein:

at least one of the at least two semiconducting layers is configured to have a thermal coefficient of expansion equal to a thermal coefficient of expansion of the solid insulation layer.

53. (New) A wind power plant according to claim 50, wherein:

the winding comprises a high-voltage cable.

54. (New) A wind power plant according to claim 51, wherein:

an innermost semiconducting layer of the at least two semiconducting layers is configured to have a potential essentially equal to an electric conductor.

55. (New) A wind power plant according to claim 54, wherein:

the innermost semiconducting layer of the at least two semiconducting layers is configured to be in electrical contact with at least a portion of the electric conductor.

56. (New) A wind plant according to claim 51, wherein:

an outermost semiconducting layer of the at least two semiconducting layers is connected to a node at a predetermined potential.

57. (New) A wind power plant according to claim 56, wherein:

the predetermined fixed potential is at least one of a ground potential and a low voltage potential.

58. (New) A wind power plant according to claim 35, wherein:

the wind power station comprises a step-down transformer configured to step-down the voltage between the electric generator and the frequency converter.

59. (New) A wind power plant according to claim 35, wherein:

the wind power station comprises a step-down transformer configured to step-down the voltage between the electric generator of the wind power station and the frequency converter; and

the at least one other wind power station comprises another step-down transformer configured to step-down the voltage between an electric generator of the at least one other wind power station and the frequency converter.

60. (New) A wind power plant according to claim 46, further comprising:

a common step-down transformer connected between the frequency converter and the wind power station, and between the frequency converter and the at least one other wind power station.

61. (New) A wind power plant according to claim 60, wherein:

the wind power station comprises a step-down transformer configured to have a primary side connected to the electric generator and a secondary side connected in parallel to a primary side of the common step-down transformer.

62. (New) A wind power plant according to claim 35, further comprising:

at least one of a cable configured to be submerged into water and a cable configured as an aerial line.

63. (New) A wind power plant according to claim 35, wherein:

the frequency converter comprises a frequency converter control unit configured to control a frequency at the electric alternating voltage connection.

64. (New) A wind power plant according to claim 35, further comprising:

an active power measuring unit; and

a wind speed measuring unit,

wherein the active power measuring unit and the wind speed measuring unit are configured to send control signals to the frequency converter control unit.

65. (New) A wind power plant according to claim 64, wherein:

the frequency converter control unit is configured to control the frequency at the electric alternating voltage connection with an ideal characteristic over rotational speed as a function of wind speed.

66. (New) A wind power plant according to claim 64, wherein:

the frequency converter control unit is configured to control the frequency at the electric alternating voltage connection by comparison of a measured transmitted active power with an ideal characteristic over rotational speed as a function of power.

67. (New) A wind power plant according to claim 63, wherein:

the frequency converter control unit is configured to control the frequency converter to maintain a constant voltage/frequency ratio at the electric alternating voltage connection over a predetermined major part of a predetermined frequency range.

68. (New) A method for controlling an operation of a wind power plant comprising steps of:

fixing an electric frequency output by the wind power station to a frequency substantially below a network frequency, said wind power plant having a wind power station with a wind turbine and an electric generator having a cable comprised of a flexible electric conductor, an inner semiconductor layer, an insulation layer and an outer semiconductor layer, and

an alternating current connection connecting the wind power plant with at least one of a transmission network and a distribution network; and

converting the electric frequency output by the wind power station to match the network frequency.

69. (New) A method for controlling the operation of a wind power plant according to claim 68, further comprising steps of:

comparing a measured wind speed with an ideal over rotational speed as a function of wind speed to determine a frequency converter control value; and

regulating the frequency of the alternating current connection with the frequency converter control value.

70. (New) A method for controlling the operation of a wind power plant according to claim 68, wherein:

said regulating step includes a substep of comparing a measured active power at the alternating current connection with an ideal over rotational speed as a function of active power.

71. (New) A method for controlling the operation of a wind power plant according to claim 68, wherein:

said regulating step includes controlling the frequency of the alternating current connection to maintain a constant voltage/frequency over a predetermined major part of a predetermined frequency range.

72. (New) A wind power plant comprising:

a wind power station with a wind turbine and an electric generator having a cable comprised of a flexible electric conductor, an inner semiconductor layer, an insulation layer and an outer semiconductor layer;

an alternating current connection connecting the wind power plant with at least one of a transmission network and a distribution network;

means for fixing an electric frequency output by the wind power station to a frequency substantially below a network frequency; and

means for converting the frequency output by the wind power station to match the network frequency.